

Eureka Math *A Story of Units*

Fourth Grade – Module 4

2015-2016

Table of Contents

Module Assessment Overview	page 2
Grade 4 Standards Checklist	page 3
Module 4 Mid-Module Assessment Task...	
Score Sheet	pages 4-5
Rubric	pages 6-7
Key	pages 8-12
Module 4 End-of-Module Assessment Task...	
Score Sheet	pages 13-14
Rubric	pages 15-16
Key	pages 17-21

Materials based on Eureka Math Version 3.



Module Assessment Overview

Purpose of Assessments

Mid-Module Assessment: These tasks address approximately the **first half** of the module's learning objectives, and provide important information for instruction and for grading.

End-of-Module Assessment: These tasks are based on all standards addressed in order to gauge students' full range of understanding of the **module as a whole**. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Administration of Assessments

- Mid- and End-of-Module Assessments are designed to be completed in approximately one class period. However, The tests can be given over multiple days as needed.
- Assessments are designed to be completed independently by students, without assistance.
- These tasks should not be preceded by review of similar problems.

Grading Guidance

The grading scale on Elementary Report Cards has been changed for 2015-2016 and beyond. Please note that ***4 now indicates advanced understanding of grade level standards expected at this time of year.***

4 – Advanced: Student demonstrates advanced understanding of grade level standards expected at this time of year.

3 – Proficient: Student demonstrates proficiency with grade level standards expected at this time of year.

2 – Basic: Student demonstrates basic understanding of grade level standards expected at this time of year. Student needs additional support and practice.

1 – Below Basic: Student demonstrates minimal understanding of grade level standards expected at this time of year. Student needs significant support and practice.

Rubrics have been updated to reflect this change. Rubrics have been further modified from Eureka Math originals for clarity, accuracy, and alignment to Bethel's grade scale.

General Grading Guidance:

- On the report card, student learning is reported by CCSS domain. The Fourth Grade CCSS domains are: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- Grades in each domain should be based on multiple sources of evidence, including the Mid- and End-of-Module Assessments. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Module 4 Grading Guidance:

- Standards 4.MD.5a, 4.MD.5b, 4.MD.6, 4.MD.7, 4.G.1, 4.G.2, and 4.G.3 will only be assessed in Module 4. (See checklist on page 3.)

Grade 4 Common Core State Standards Checklist by Module

This grade-level chart provides an at-a-glance view of when each standard is addressed. Shaded boxes indicate standards assessed in Module 4. Some standards may be assessed again in a future module. *Note that standards included in major clusters are followed by an asterisk (*).* Please refer to the Curriculum Overview of A Story of Units for a curriculum map and detailed grade-level descriptions including a summary of the year, a rationale of the module sequence, and a standards alignment chart.

CCSS		GRADE 4 MODULES						
		1	2	3	4	5	6	7
4.OA	1*			X				X
	2*			X				X
	3*	X		X				X
	4			X				
	5					X		
4.NBT	1*	X						
	2*	X						
	3*	X						
	4*	X						
	5*			X				X
	6*			X				
4.NF	1*					X		
	2*					X		
	3a*					X		
	3b*					X		
	3c*					X		
	3d*					X		
	4a*					X		
	4b*					X		
	4c*					X		
	5*						X	
	6*						X	
	7*						X	
4.MD	1		X					X
	2		X			X	X	X
	3			X				
	4					X		
	5a				X			
	5b				X			
	6				X			
	7				X			
4.G	1				X			
	2				X			
	3				X			

Assessment Recommendations for Eureka Math A Story of Units
Teaching and Learning Department - Bethel School District

Grade 4 Module 4 Mid-Module Assessment Task Score Sheet

A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student **CAN** do now, and what they need to work on next.

Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer. (1 Point)	Evidence of some reasoning with an incorrect answer. (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	Evidence of solid reasoning with a correct answer. (4 Points)

Module 4: Mid-Module Assessment					
Question	Domain		Standards		
	Measurement and Data	Geometry	4.MD.5	4.MD.6	4.G.1
1		1 2 3 4			X
2	1 2 3 4	1 2 3 4		X	X
3		1 2 3 4			X
4	1 2 3 4		X		
5	1 2 3 4		X		
6 a, b	1 2 3 4		X	X	
6 c		1 2 3 4			X

Domain Score	Measurement and Data		Geometry	
Total Points				
Level	4	14-16 points	4	14-16 points
	3	10-13 points	3	10-13 points
	2	6-9 points	2	6-9 points
	1	4-5 points	1	4-5 points

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

Grade 4 Module 4 Mid-Module Assessment Task Score Sheet (continued)

Mid-Module Assessment Task (Topics A–B) Clusters and Standards Addressed

Geometric measurement: understand concepts of angle and measure angles.

- 4.MD.5** Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
- An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.
 - An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
- 4.MD.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

- 4.G.1** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

Assessment Recommendations for Eureka Math A Story of Units
Teaching and Learning Department - Bethel School District
Grade 4 Module 4 Mid-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 4.G.1	The student correctly answers 0-2 of the seven parts.	The student correctly answers 3-4 of the seven parts.	The student correctly answers 5-6 of the seven parts.	The student correctly answers 7 of the seven parts. (See below.)
	a. (1) Draws point A and point B. b. (2) Draws line AB. c. (3) Draws point D, not on line AB. d. (4) Draws ray BD. e. (5) Draws line segment AD. f. (6) Identifies an acute angle based on the figure drawn. g. (7) Identifies an obtuse angle based on the figure drawn. Note: Drawings and angles may differ for each student.			
2 4.MD.6 See below for Geometry scoring for #2.	The student correctly measures 0 of the three angles.	The student correctly measures 1 of the three angles.	The student correctly measures 2 of the three angles.	The student correctly measures 3 of the three angles. (See below.)
	a. (1) 30° b. (2) 147° c. (3) 90° Note: Measure a student test to ensure that the measurements are accurate, however allow +/- 2 degree variance for student responses.			
2 4.G.1 See above for MD scoring for #2.	The student correctly answers 0-2 of the six parts.	The student correctly answers 3-4 of the six parts.	The student correctly answers 5 of the six parts.	The student correctly answers 6 of the six parts. (See below.)
	a. (1) acute; (2) the angle measure is less than 90°. b. (3) obtuse; (4) the angle measures greater than 90°. c. (5) right; (6) the angle measures exactly 90°.			
3 4.G.1	The student correctly answers 0-3 of the nine parts.	The student correctly answers 4-6 of the nine parts.	The student correctly answers 7-8 of the nine parts.	The student correctly answers 9 of the nine parts. (See below.)
	(1) Draws line KL (2) Labels point A on line KL (3) Draws and (4) labels line PQ perpendicular to line KL (5) Labels point B on line PQ (6) Draws and (7) labels line ST perpendicular to line PQ (8) Identifies \overleftrightarrow{ST} as parallel to \overleftrightarrow{KL} . (9) Explains lines are parallel because they are an equal distance apart from each other or because they are perpendicular to line PQ. Note: Drawings will vary.			



Grade 4 Module 4 Mid-Module Assessment Task Rubric (continued)

A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
4 4.MD.5	Student correctly completes 0-1 of the four parts.	Student correctly completes 2 of the four parts.	Student correctly completes 3 of the four parts.	Student correctly completes 4 of the four parts. (See below.)
	a. (1) Clock hands depict 3:00. b. (2) Possible correct responses include: 90° angle and right angle or 270° angle and obtuse angle c. (3) 3:30. d. (4) Four turns.			
5 4.MD.5	Student correctly answers 0 of the three parts.	Student correctly answers 1 of the three parts.	Student correctly answers 2 of the three parts.	Student correctly answers 3 of the three parts. (See below.)
	a. (1) 270°. b. (2) Each girl turned 90 degrees. (3) Each turned $\frac{1}{4}$ of a full turn.			
6 a, b 4.MD.5 4.MD.6 See below for scoring for 6c.	The student correctly completes 0-1 of the five parts.	The student correctly completes 2-3 of the five parts.	The student correctly completes 4 of the five parts.	The student correctly completes 5 of the five parts. (See below.)
	a. (1) $\angle FGD = 42^\circ$ (2) $\angle DGK = 138^\circ$ (3) $\angle KGN = 42^\circ$ Note: Measure a student test to ensure that the measurements are accurate, however allow +/- 2 degree variance for student responses. b. (4) Sketch of a 138° angle, (5) labeled with an arc and points.			
6 c 4.G.1 See above for scoring for 6 a, b.	The student correctly completes 0-1 of the five parts.	The student correctly completes 2-3 of the five parts.	The student correctly completes 4 of the five parts.	The student correctly completes 5 of the five parts. (See below.)
	c. (1) Line Segment may include one of the following: $\overline{AB}, \overline{AC}, \overline{BC}, \overline{BD}, \overline{EF}, \overline{GH}, \overline{HJ}, \overline{KL}$. (2) Right Angle may include one of the following: $\angle ABD, \angle CBD$. (3) Obtuse Angle: $\angle GHJ$. (4) Parallel Lines may include one of the following: $\overline{KL} \parallel \overline{GH}, \overline{BD} \parallel \overline{EF}$. (5) Perpendicular Lines may include one of the following: $\overline{AC} \perp \overline{BD}, \overline{AB} \perp \overline{BD}, \overline{BC} \perp \overline{BD}$.			

Assessment Recommendations for Eureka Math A Story of Units
Teaching and Learning Department - Bethel School District
Grade 4 Module 4 Mid-Module Assessment Task Key

Name Jack Date _____

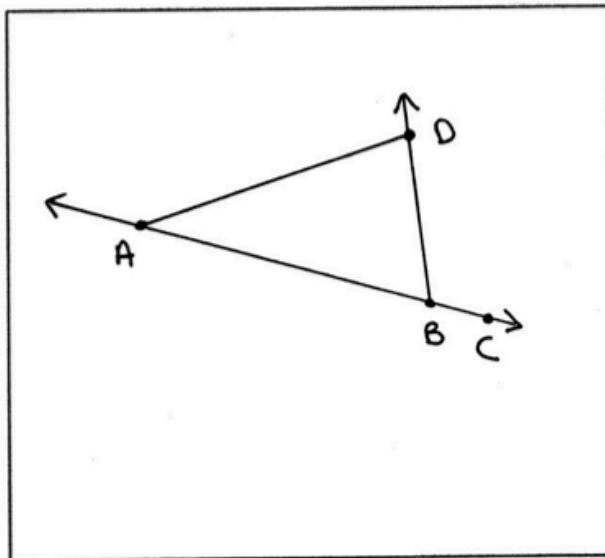
1. Follow the directions below to draw a figure in the box below. Use a straightedge.

- a. Draw 2 points, A and B.
- b. Draw \overleftrightarrow{AB} .
- c. Draw point D that is not on \overleftrightarrow{AB} .
- d. Draw \overleftrightarrow{BD} .
- e. Draw \overleftrightarrow{AD} .
- f. Name an acute angle.

$\angle BAD$

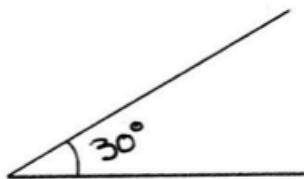
- g. Name an obtuse angle. You may have to draw and label another point.

$\angle DBC$



2. Use your protractor to measure the angle indicated by the arc. Classify each angle as right, acute, or obtuse. Explain how you know each angle's classification.

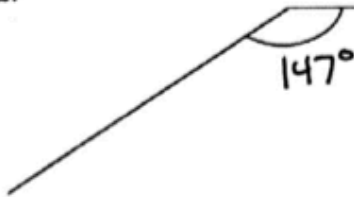
a.



This is an acute angle. I know because it measures 30° which is less than a right angle.

Grade 4 Module 4 Mid-Module Assessment Task Key (continued)

b.



This is an obtuse angle.
I know because it measures 147° which is greater than a right angle and less than 180° .

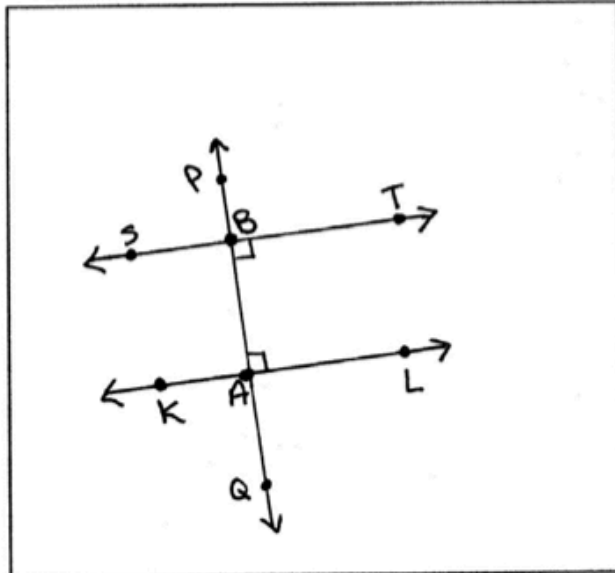
c.



This is a right angle.
It measures exactly 90° .

3. Use the following instructions to draw a figure in the box below.

- Using a straightedge, draw a line. Label it \overleftrightarrow{KL} .
- Label a point A on \overleftrightarrow{KL} .
- Using your protractor and ruler, draw a line perpendicular to \overleftrightarrow{KL} through point A .
- Label the perpendicular line \overleftrightarrow{PQ} .
- Label a point B on \overleftrightarrow{PQ} , other than point A .
- Using your protractor and straightedge, draw a line, \overleftrightarrow{ST} , perpendicular to \overleftrightarrow{PQ} through point B .



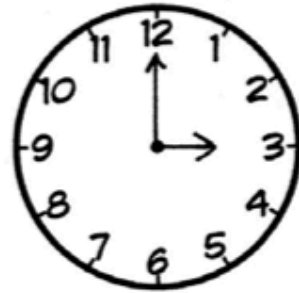
Which lines are parallel in your drawing? Explain why.

$\overleftrightarrow{ST} \parallel \overleftrightarrow{KL}$ \overleftrightarrow{ST} is parallel to \overleftrightarrow{KL} because both of them are perpendicular to \overleftrightarrow{PQ} . It reminds me of the sides of a rectangle.

Grade 4 Module 4 Mid-Module Assessment Task Key (continued)

4. Use the clock to answer the following:

a. Use a straightedge to draw the hands as they would appear at 3:00.



b. What kind of angle is formed by the clock hands at 3:00?

A right angle

c. What time will it be when the minute hand has turned 180° ?

It will be 3:30.

d. How many 90° turns will the minute hand make between 3:00 and 4:00?

The minute hand will make four 90° turns between 3:00 and 4:00.

5. Use the compass rose to answer the following:



a. Maddy faced East. She turned to her right until she was facing North. How many degrees did she turn?

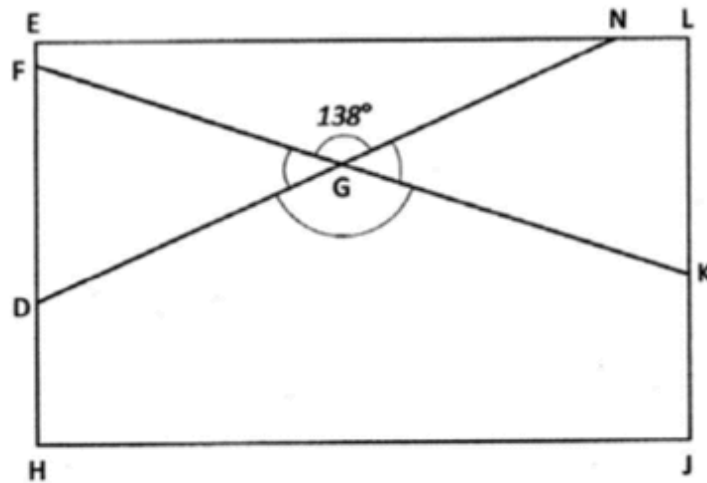
Maddy turned 270° .

b. Quanisha was facing North. She turned toward her right until she faced East. Alisha was facing South. She turned toward her right until she faced West. What fraction of a full turn did each girl complete? Through how many degrees did each girl turn?

Each girl completed $\frac{1}{4}$ of a full turn.
Each girl turned 90° .

Grade 4 Module 4 Mid-Module Assessment Task Key (continued)

6. The town of Seaford has a large rectangular park with a biking path around its perimeter and two straight-line biking paths that cut across it as shown in the diagram below.



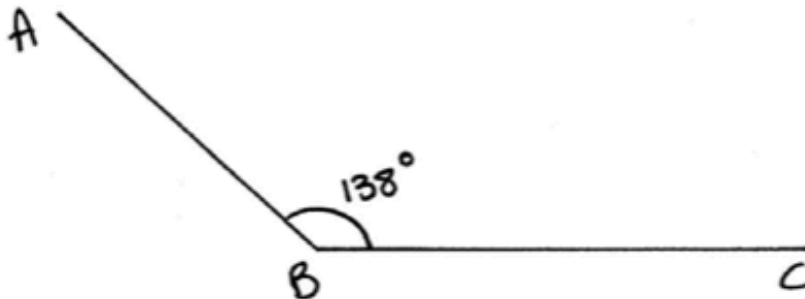
- a. Find the measure of the following angles using a protractor.

$\angle FGD:$ 42°

$\angle DGK:$ 138°

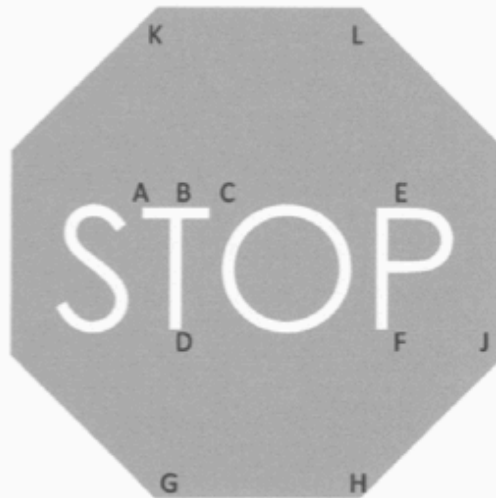
$\angle KGN:$ 42°

- b. In the space below, use a protractor to draw an angle with the same measure as $\angle DGK$.



Grade 4 Module 4 Mid-Module Assessment Task Key (continued)

- c. Below is a sign that bikers may encounter while riding in the park. Using the points in the figure below, identify a line segment, a right angle, an obtuse angle, a set of parallel lines, and a set of perpendicular lines. Write them in the table below.



Line Segment	\overline{EF}
Right Angle	$\angle ABD$
Obtuse Angle	$\angle GHJ$
Parallel Lines	$\overline{KL} \parallel \overline{GH}$
Perpendicular Lines	$\overline{AC} \perp \overline{BD}$

Grade 4 Module 4 End-of-Module Assessment Task Score Sheet**A Progression of Learning**

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student **CAN** do now, and what they need to work on next.

Score Key: A Progression of Learning

Little or no evidence of reasoning with an incorrect answer. (1 Point)	Evidence of some reasoning with an incorrect answer. (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	Evidence of solid reasoning with a correct answer. (4 Points)
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Module 4: End-of-Module Assessment								
Domain			Standards					
Question	Measurement and Data	Geometry	4.MD.5	4.MD.6	4.MD.7	4.G.1	4.G.2	4.G.3
1		1 2 3 4					X	X
2	1 2 3				X			
3	1 2 3 4		X	X	X			
4 a-d & h		1 2 3 4				X	X	X
4 e-g	1 2 3 4		X	X	X			

Domain Score	Measurement and Data		Geometry	
Total Points				
Level	4	11 points	4	7-8 points
	3	8-10 points	3	5-6 points
	2	5-7 points	2	3-4 points
	1	3-4 points	1	2 points

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

Grade 4 Module 4 End-of-Module Assessment Task Score Sheet (continued)

End-of-Module Assessment Task (Topics A–D) Clusters and Standards Addressed

Geometric measurements: understand concepts of angle and measure angles.

- 4.MD.5** Recognize angles as geometric shapes that are formed whenever two rays share a common endpoint, and understand concepts of angle measurement:
- An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.
 - An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
- 4.MD.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
- 4.MD.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measure of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

- 4.G.1** Draw points, lines, line segments, rays, angles (acute, right, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- 4.G.2** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right angles as a category, and identify right triangles.
- 4.G.3** Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Grade 4 Module 4 End-of-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 4.G.2 4.G.3	The student correctly answers 0-6 of the fourteen parts.	The student correctly answers 7-10 of the thirteen parts.	The student correctly answers 11-12 of the fourteen parts.	The student correctly answers 13-14 of the fourteen parts. (See below.)
	a. (1) 1 line. b. (2) None. c. (3) 3 lines. d. (4) 4 lines. e. (5) None. f. (6) 2 lines. g. (7) Triangle <i>a</i> is obtuse and (8) isosceles. (9) Triangle <i>c</i> is acute and (10) equilateral. (11) Triangle <i>e</i> is right and (12) scalene. h. (13) A circle has an infinite number of lines of symmetry. (14) All lines of symmetry for a circle share the center point.			
2 4.MD.7	The student correctly answers 0 of the two parts.	The student correctly answers 1 of the two parts.	The student correctly: (1) Identifies that $\angle RQS$ and $\angle TQS$ total 90 degrees, so $\angle RQS$ measures 66 degrees (2) Includes an equation such as $24 + a = 90$.	Level 4 not available for this item.
3 4.MD.5 4.MD.6 4.MD.7	Student correctly answers 0-1 of the six parts.	Student correctly answers 2-3 of the six parts.	Student correctly answers 4-5 of the six parts.	Student correctly answers 6 of the six parts. (See below.)
	a. (1) $\angle D = 277^\circ$. (2) The number of degrees in a circle is 360, so $\angle D$ is the difference between 83 and 360. b. (3) $\angle QRT = 122^\circ$. (4) A line equals 180 degrees, so $\angle QRT$ must be equal to the difference between 180 and 58. c. (5) $\angle PRS = 122^\circ$. (6) The measure of $\angle TRS$ using \overline{QRS} or $\angle QRP$ using \overline{PRT} is 58 degrees, making $\angle PRS$ equal to the difference between 180 and 58. The students may also determine that $\angle PRS$ is equal to $\angle QRT$ because of the two intersecting lines creating vertical angles. $\angle QRV + \angle VRT = 122^\circ$. (Referencing vertical angles, although not necessary, is acceptable.)			

Assessment Recommendations for Eureka Math A Story of Units
Teaching and Learning Department - Bethel School District

A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
4 a, b, c, d, and h 4.G.1 4.G.2 4.G.3 See below for MD scoring for parts e-g.	The student correctly answers 0-3 of the eight parts.	The student correctly answers 4-5 of the eight parts.	The student correctly answers 6-7 of the eight parts.	The student correctly answers 8 of the eight parts. (See below.)
	a. (1) Rectangle; (2) 2 lines. b. (3) Rhombus; (4) 2 lines. c. (5) Right, scalene triangle; (6) no lines. d. (7) Drawing depicts a right triangle with sides measuring 6 cm, 8 cm, and 10 cm. h. (8) Drawing depicts a line-symmetric figure.			
4 e, f, g 4.MD.5 4.MD.6 4.MD.7 See above for G scoring for parts a-d, and h.	The student correctly answers 0-1 of the four parts.	The student correctly answers 2 of the four parts.	The student correctly answers 3 of the four parts.	The student correctly answers 4 of the four parts. (See below.)
	e. (1) 270 degrees. f. (2) 135 degrees; (3) $45 + b = 180$ or $180 - 45 = b$. g. (4) Mike lined the bottom ray up with the bottom edge of the protractor, not with the line that measures to zero.			



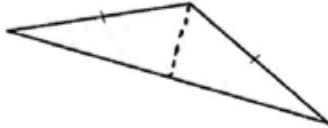
Assessment Recommendations for Eureka Math A Story of Units
Teaching and Learning Department - Bethel School District
Grade 4 Module 4 End-of-Module Assessment Task Key

Name Jack

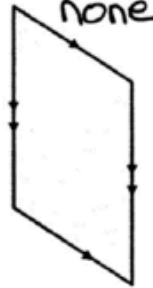
Date _____

1. Find and draw all lines of symmetry in the following figures. If there are none, write "none."

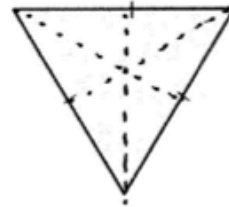
a.



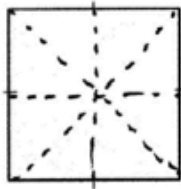
b.



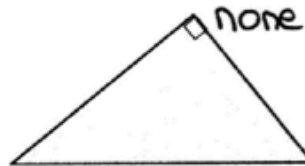
c.



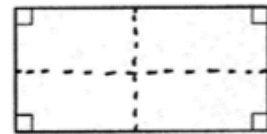
d.



e.



f.



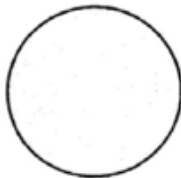
- g. For each triangle listed below, state whether it is acute, obtuse, or right and whether it is isosceles, equilateral, or scalene.

Triangle a: obtuse isosceles

Triangle c: acute equilateral

Triangle e: right scalene

- h. How many lines of symmetry does a circle have? What point do all lines of symmetry for a given circle have in common?

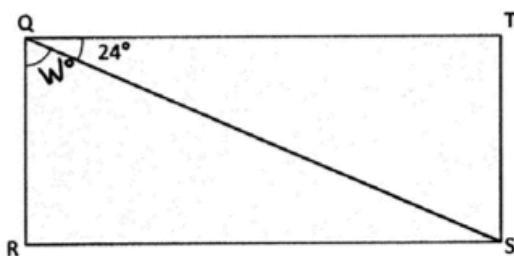


A circle has an infinite amount of
lines of symmetry. All lines of
symmetry for a circle pass through
the center point.

Grade 4 Module 4 End-of-Module Assessment Task Key (continued)

2. In the following figure, QRST is a rectangle. Without using a protractor, determine the measure of $\angle RQS$.

Write an equation that could be used to solve the problem.



$$24^\circ + W^\circ = 90^\circ$$

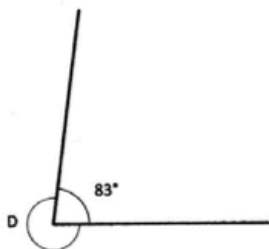
$$\begin{array}{r} 90 \\ - 24 \\ \hline 66 \end{array}$$

$$W^\circ = 66^\circ$$

$$\angle RQS = 66^\circ$$

3. For each part below, explain how the measure of the unknown angle can be found without using a protractor.

- a. Find the measure of $\angle D$.



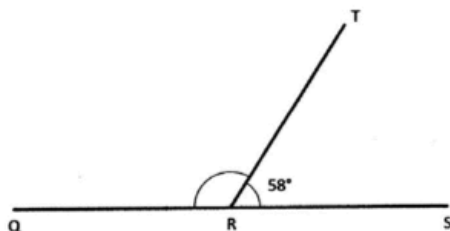
$$\begin{array}{r} 15 \\ 2510 \\ - 83 \\ \hline 277 \end{array}$$

$$83^\circ + \angle D = 360^\circ$$

$$\angle D = 277^\circ$$

$\angle D$ is 277° . A circle measures 360° . If one angle is 83° , the other angle is the difference.

- b. In this figure, Q, R, and S lie on a line. Find the measure of $\angle QRT$.



$$58^\circ + \angle QRT = 180^\circ$$

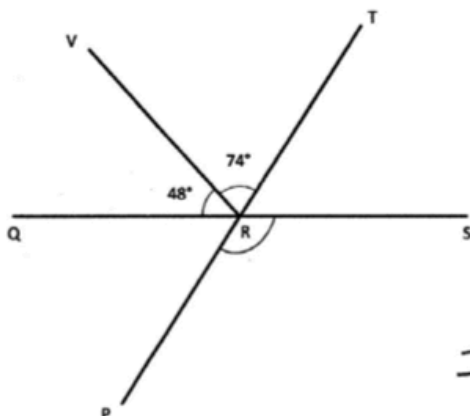
$$\begin{array}{r} 180 \\ - 58 \\ \hline 122 \end{array}$$

$$\angle QRT = 122^\circ$$

$\angle QRT$ is 122° . I know that because a line measures 180° , so $\angle QRT$ and $\angle TRS$ have to add to 180° .

Grade 4 Module 4 End-of-Module Assessment Task Key (continued)

- c. In this figure, Q, R, and S lie on a line, as do P, R, and T. Find the measure of $\angle PRS$.



$$48^\circ + 74^\circ + \angle TRS = 180^\circ$$

$$\begin{array}{r} 48 \\ + 74 \\ \hline 122 \end{array} \quad \begin{array}{r} 180 \\ - 122 \\ \hline 58 \end{array} \quad \angle TRS = 58^\circ$$

$$\angle TRS + \angle PRS = 180^\circ$$

$$58^\circ + \angle PRS = 180^\circ$$

$$\angle PRS = 122^\circ$$

$$\begin{array}{r} 180 \\ - 58 \\ \hline 122 \end{array}$$

Since Q, R, and S lie on a line, I know $48^\circ + 74^\circ + \angle TRS = 180^\circ$. That means $\angle TRS = 58^\circ$.
Since P, R, and T lie on a line, I know $\angle TRS + \angle PRS = 180^\circ$. That means $\angle PRS = 122^\circ$.

4. Mike drew some two-dimensional figures.

Sketch the figures and answer each part about the figures that Mike drew.

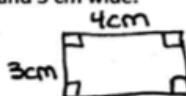
- a. He drew a four-sided figure with four right angles. It is 4 cm long and 3 cm wide.

What type of quadrilateral did Mike draw?

rectangle

How many lines of symmetry does it have?

2 lines of symmetry



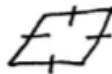
- b. He drew a quadrilateral with four equal sides and no right angles.

What type of quadrilateral did Mike draw?

rhombus

How many lines of symmetry does it have?

2 lines of symmetry



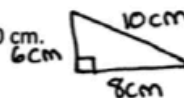
- c. He drew a triangle with one right angle and sides that measure 6 cm, 8 cm, and 10 cm.

Classify the type of triangle Mike drew based on side length and angle measure.

How many lines of symmetry does it have?

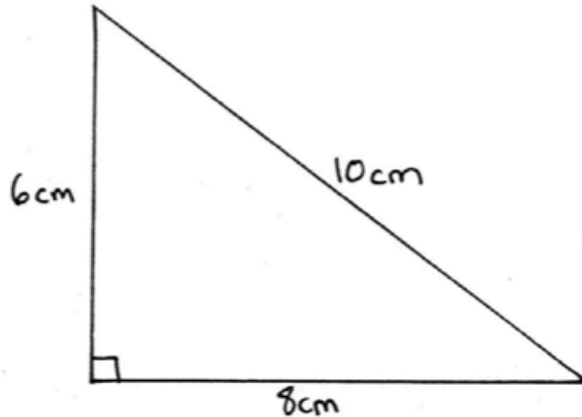
no lines of symmetry

right triangle
scalene triangle

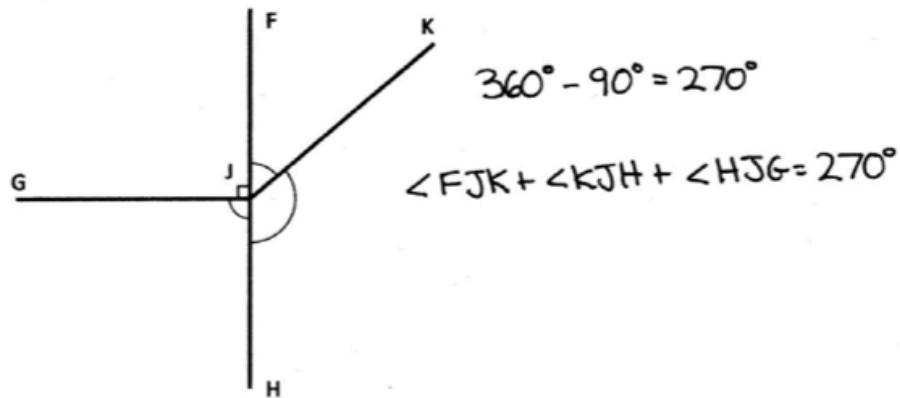


Grade 4 Module 4 End-of-Module Assessment Task Key (continued)

- d. Using the dimensions given, draw the same shape Mike that drew in Part (c).



- e. Mike drew this figure. Without using a protractor, find the sum of $\angle FJK$, $\angle KJH$, and $\angle HJG$.



- f. Points F, J, and H lie on a line. What is the measure of $\angle KJH$ if $\angle FJK$ measures 45° ? Write an equation that could be used to determine the measure of $\angle KJH$.

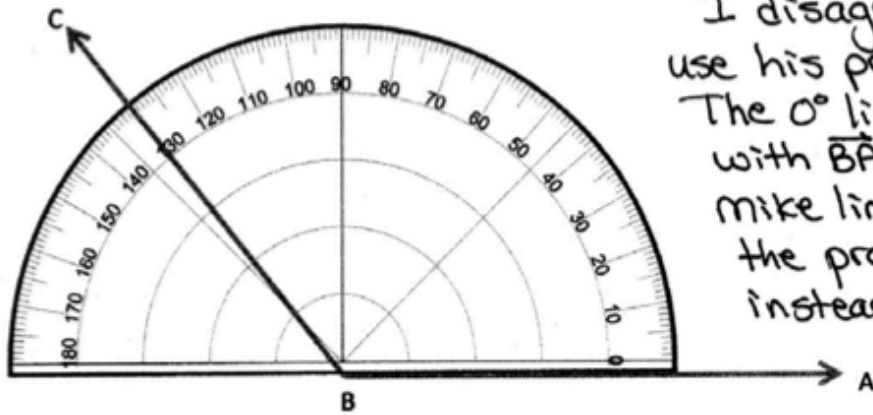
$$45^\circ + \angle KJH = 180^\circ$$

$$\begin{array}{r} 180 \\ - 45 \\ \hline 135 \end{array}$$

$$\angle KJH = 135^\circ$$

Grade 4 Module 4 End-of-Module Assessment Task Key (continued)

- g. Mike used a protractor to measure $\angle ABC$ as shown below and said the result was exactly 130° . Do you agree or disagree? Explain your thinking.



I disagree. Mike didn't use his protractor correctly. The 0° line should match up with \overrightarrow{BA} , but it doesn't. Mike lined up the bottom of the protractor with \overrightarrow{BA} instead.

- h. Below is half of a line-symmetric figure and its line of symmetry. Use a ruler to complete Mike's drawing.

